

Appl. No. 10/810,296
Dated Dec. 12, 2007

Reply to Phone Interview of Dec. 5, 2007

The changed claim 1 will replace all prior versions of the claim 1 in said application:

Claim 1 (currently changed): A multiparameter method of ~~screening for the diagnosis, the prevention or the treatment~~ evaluating disease risk, disease cause, therapeutic target, and therapeutic efficiency of atherosclerosis-related coronary heart disease (CHD) or stroke comprising;

defining the disease as atherosclerosis-related CHD or stroke;

defining the normal as free from said disease;

defining the following parameters as

atherosclerotic parameters consisting of c = the Low-density lipoprotein (LDL) concentration parameter in mg/dL or c = the C-reactive protein (CRP) concentration parameter in mg/L, p = the blood systolic pressure parameter in mmHg or p = the blood diastolic pressure parameter in mmHg, f = the heart rate parameter in s^{-1} , a = the radius parameter along arterial radius in cm, T = the temperature parameter of blood plasma in $^{\circ}C$, α = the angle parameter between gravity and the mean velocity of blood

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fluid in arterial vessels in degree and z = the axial position parameter of diffusion flux along the inner wall in the axial direction of arterial vessels in cm, called the diffusion length;

measuring for an individual having the measured values of disease, said atherosclerotic parameters of the following expressions:

$$J = A c^{\frac{11}{9}} (v^3 D^{16})^{\frac{1}{27}} \left(\frac{g \cos \alpha + fu}{z} \right)^{\frac{2}{9}} \quad (1.1)$$

or

$$J = B c^{\frac{11}{9}} p^{\frac{1}{3}} T^{\frac{16}{27}} a^{\frac{2}{3}} f^{\frac{2}{9}} z^{-\frac{2}{9}} \quad (1.2)$$

and

$$J = E c^{\frac{11}{9}} D^{\frac{16}{27}} z^{-\frac{2}{9}} (\cos \alpha)^{\frac{2}{9}} \quad (1.3)$$

wherein J = the mass transfer flux in 10^{-5} g/(cm²s), A , B and E = the constants of conversion factors, v = the eddy velocity of blood fluid in arterial vessels in cm/s, u = the mean velocity of the blood fluid in cm/s, D = the diffusion coefficient in cm²/s, and g = the gravitational acceleration in cm/s²;

the measuring for an individual not having the disease, the normal values of said atherosclerotic parameters;

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determining the disease risks yielded by the difference between said measured values and said normal values of said atherosclerotic parameters;

adding all said disease ~~risks together yields a~~
total risk level containing said total risk of
said disease;

determining a disease risk level containing said total risk of said disease;

selecting an atherosclerotic risk factor related to an atherosclerotic parameter that is the greatest contribution to said total risk of said disease so as to result in said risk factor as a primary therapy target of said disease;

selecting a greater flux between the LDL mass transfer flux and the monocyte mass transfer flux so as to result in said greater flux as a primary cause in said disease;

selecting a greater concentration level between the LDL level in serum and the CRP level in blood plasma so as to result in said greater

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level as a secondary therapy target of said disease;

determining a relative ratio between currently said total risk and previously said total risk so as to yield said relative ratio as a therapeutic efficacy of said disease;

repeating above-mentioned said methods until said disease risk level is reduced to a normal level for said individual who requires the therapy to prevent or to treat atherosclerosis-related CHD or stroke;

above-mentioned said methods are written as an executable computer program named the MMA.exe, or another name, to be installed into a general purpose digital computer device to accomplish said methods; and

~~to output~~ outputting a ~~result of said methods~~
said total disease risk, disease cause,
therapeutic target and therapeutic efficiency
~~to a display or a memory or another computer on~~
~~a network, or to a user or a display.~~